

03/10/14 Agenda

- Warm Up
- Review Homework
 - Worksheet 7.5 - Rational Exponents & Radicals
(1 - 33 odds)
- Review - Sections 7.1 - 7.5
- Review Packet
 - Due Wednesday before test.
- Homework
 - Finish Review Packet

Warm Up - Homework out!



Put your name on a slip of paper.

Write in radical form, simplify:

$$b^{\frac{5}{4}} = \sqrt[4]{b^5}$$

$$(25c^2)^{\frac{1}{2}} = \sqrt{25c^2} = 5c$$

Write in exponential form:

$$\sqrt[2]{(3x)^4} = (3x)^{\frac{4}{2}}$$

$$(3x)^2 = 9x^2$$

$$\sqrt{49x} = (49x)^{\frac{1}{2}}$$

$$49^{\frac{1}{2}} x^{\frac{1}{2}}$$

$$7x^{\frac{1}{2}}$$

$$7\sqrt{x}$$

2

29. $\left(a^{\frac{2}{3}}\right) \cdot \left(a^{\frac{2}{3}}\right)$

$a^{\frac{2}{3} + \frac{2}{3}} = a^{\frac{4}{3}}$

 (4) — POWER

 (3) — ROOT

 $\sqrt[3]{a^4} = \left(\sqrt[3]{a}\right)^4$

$x^2 \cdot x^3 = x^{2+3}$

 $= x^5$

 $x \cdot x \cdot x \cdot x \cdot x = x^5$

Review:

Powers with same base.

Add the exponents!

$$a^m a^n = a^{m+n}$$

Remember the invisible 1's!

$$a^2 \cdot a^1 \cdot a^4 = a^{2+1+4} = a^7$$

Powers with same base (with coefficients).

Add the exponents, but multiply the coefficients!

$$2y^3 \cdot 6y^3 = (2)(6) y^{3+3} = 12y^6$$

Powers to a power.

Multiply the exponents!

$$(a^m)^n = a^{mn}$$

$$(c^2)^5 = c^{2 \cdot 5} = c^{10}$$

Product to a power.

Distribute the outer exponent!

$$(ab)^m = a^m b^m$$

Remember the invisible 1's!

$$(4x^2y^3z^1)^3 = 4^3 x^{2 \cdot 3} y^{3 \cdot 3} z^{1 \cdot 3} = 64x^6y^9z^3$$

Division of powers with same base.

Subtract the exponents!

$$\frac{a^m}{a^n} = a^{m-n}$$

Remember the invisible 1's!

$$\frac{x^6y^2}{x^2y} = \frac{x^6}{x^2} \cdot \frac{y^2}{y} = x^{6-2} y^{2-1} = x^4y$$

Division of powers with same base (with coefficients).

Subtract the exponents, but simplify the coefficients!

$$\frac{3a^4b^3}{6b^2} = \frac{1}{2} a^4 b^{3-2} = \frac{a^4b}{2}$$

$$\frac{1}{2} a^4b$$

Sections 7.1 - 7.5 - Review

March 10, 2014

Review: Raising a quotient (division) to a power.

Distribute the exponent to both top and bottom!

Remember the invisible 1's!

$$\left(\frac{2x^4}{y^3}\right)^4 = \frac{2^4 x^{4 \cdot 4}}{y^{3 \cdot 4}} = \frac{16x^4}{y^{12}} \quad \left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$$

Zero as an exponent.

$$a^0 = 1$$

Anything to a zero power is 1!

$$5ab^0 = 5 \cdot a \cdot 1 = 5a$$

Negative exponents.

A negative exponent 'flips' things over the fraction bar!

$$a^{-n} = \frac{1}{a^n} \quad \frac{1}{a^{-n}} = a^n$$

$$\frac{8}{2s^{-3}} = \frac{8s^3}{2} = 4s^3$$

Rational exponents.

The denominator is the 'root', the numerator is the power!

$$a^{\frac{m}{n}} = \sqrt[n]{a^m} = \left(\sqrt[n]{a}\right)^m$$